



**Product Submittal for Hi Delta® FlexGas®- Type WH
Dual-Fuel Water Heater
Models 992CD-2342CD**

Date: _____ Job: _____ Location: _____

Equipment Tags: _____ Engineer: _____ Contractor: _____

Model: _____ Notes: _____

Prepared by: _____ Indoor Outdoor

Gas Type: Natural Gas and Propane

100% Factory fire-tested

Up to 85% thermal efficiency

Versa IC® controller with LCD display

Maximum Setpoint: 160°F (71.1°C)

Maximum outlet temperature: 200°F (93.3°C)

Minimum non-condensing inlet temperature: 105°F (40.6°C)

Thermal shock proof heat exchanger

Limited 20-year thermal shock warranty

Limited 10-year cupronickel heat exchanger warranty

Limited 5-Year copper heat exchanger warranty

Full safety diagnostics with fault history

PolyTuf powder-coated cabinet

No combustible floor shield required

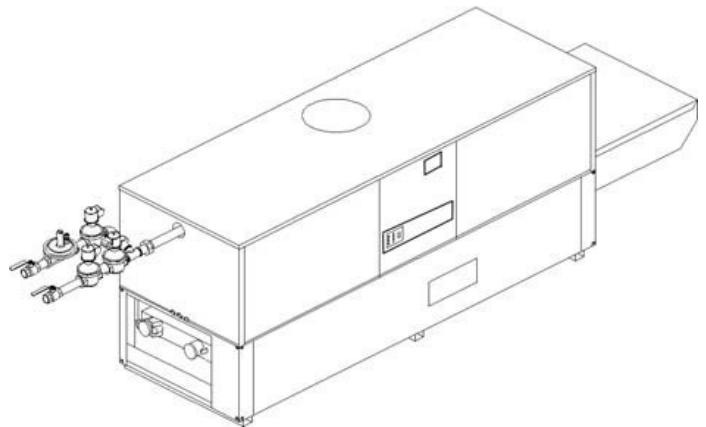
Fan-assisted

Patented burner security blanket

SCAQMD Rule 1146.2 certified, Low NOx < 20 ppm

Cascade up to 8 heaters – no external sequencer required

Proudly assembled in the USA



Patent Nos. 6,904,873 & 7,044,124; other patents pending.



Features and Options

Heat Exchanger

Headers

- Bronze (standard)
- A-2 Glass-lined cast iron (optional)
- ASME HLW-stamped; 160 PSIG MAWP
- National Board registered
- Fin tubing
 - Copper (standard)
 - A-3 Cupronickel (optional)
- ASME Steel tube sheet
- Silicone high temp. O-rings
- ASME Pressure relief valve
 - 125 PSIG (standard)
 - _____ PSIG (optional)
- T&P Gauge
- Water connections
 - Left hand (standard)
 - A-6 Right hand (optional)

Power

- 120V, 60Hz, 1Ø, Power supply
- 120/24V, 60Hz, Transformer

Control

- VERSA IC® Integrated control
- 100% Shut-off/lockout
- Hot surface ignition (HSI)
- Ignition module
 - 3-Try (standard)
 - C-6 Single-try (optional)
- Cascade up to 8 heaters
- Water temperature sensors 10kΩ (2 mtd, 1 loose, 1 well)
- Remote flame sensor
- High limit, manual-reset, fixed 240°F (115°C)
- Low gas pressure switch, manual-reset
- On/Off power switch
- Flow switch
- Blocked vent pressure switch
- Combustion air proving switch
- Programmable pump time delays
 - Heater
 - Recirculation
 - Enable/Disable

- LCD Display; status, fault and diagnostics
- Cold water protection function
 - CWR Variable-speed pump
 - CWR Controls
 - Factory-mounted
 - Shipped loose
- Modbus RTU BMS Port (Up to 115K baud rate)
 - B-85 – BMS Gateway – BACnet MS/TP, BACnet IP, N2 Metasys or Modbus TCP
 - B-86 – BMS Gateway – LonWorks

Gas Train

- Manual gas shutoff valve(s)
- Combo Valve(s)
- Firing mode
 - WH8 3-Stage (model 992CD only)
 - WH9 4-Stage (models 1262CD – 2342CD)
- Fuel
 - Natural gas
 - Propane gas (minimum grade HD-5)
- Design Certified - ANSI Z21.10.3/CSA 4.3

Construction

- Indoor/outdoor construction
- Front controls enclosed
- Powder-coat Finish
- CSA low-lead certified (≤ .25% Lead)

Venting options

- Vent Category I/III Cupronickel
- Vent Category II/IV Copper
- Vent location
 - Top (standard)
 - D-12* Barometric damper w/o thermostwitch (*must be used when vertical flue height is greater than 25 feet, or when power vent is used.)
 - D-14 Rear flue exhaust tee (optional)
 - Factory-mounted
 - Shipped loose
- Vent termination
 - D-11 Vent termination, outdoor
 - D-15 Vent termination, sidewall (Cat III & IV horizontal)
 - D-19 Cat III & IV vent termination adapter
 - D-23 Outdoor vent supports
 - D-37 Motorized combustion air damper
 - Indoor, vertical (by others)

- Combustion air
 - D-16 Air intake elbow (indoor only)
 - D-17 Inline air intake filter (used with Truseal™)
 - D-18 Adapter, boiler vent (Cat III)
 - TruSeal Direct Vent*
 - D-21 Factory-mounted
 - D-22 Shipped loose
- Extractor (optional)
 - By others
 - Not required

Options

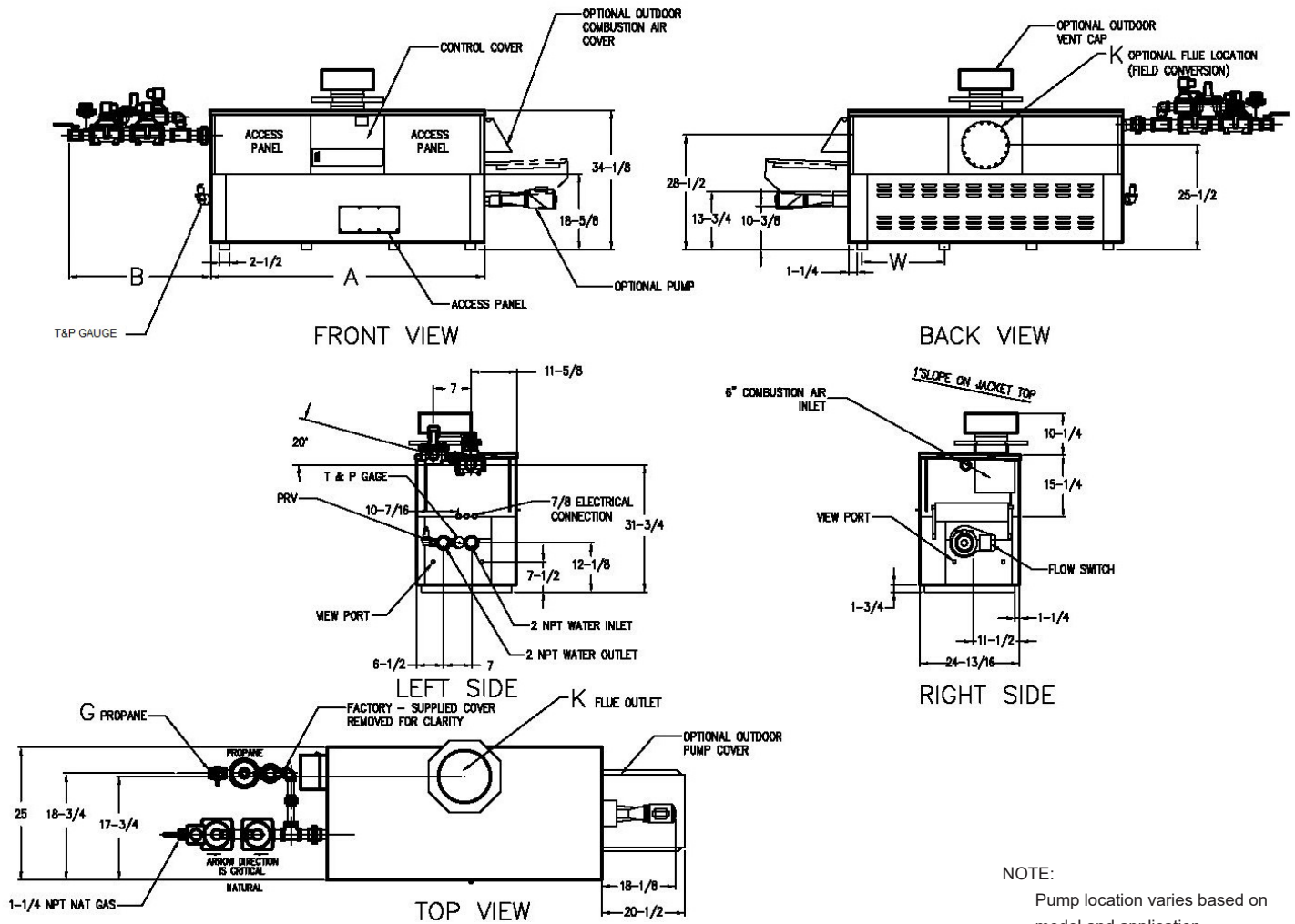
- B-31 Tankstat well
- B-32 Outdoor air sensor
- E-5 Alarm with 4" bell
 - Factory-mounted
 - Shipped loose
- F-10 Low water cut-off, remote probe
- I-5 Adj. manual-reset, high limit, 200°F (93.3°C) max
 - Factory-mounted
 - Shipped loose
- I-13 Adj. auto-reset, high limit, 200°F (93.3°C) max
 - Factory-mounted
 - Shipped loose
- I-14 Adj. auto-reset, high limit, 180°F (82.2°C) max
 - Factory-mounted
 - Shipped loose
- I-20 Adj. manual-reset, high limit, 180°F (82.2°C) max
 - Factory-mounted
 - Shipped loose
- P_ Pump: _____ HP, 120V, 1Ø, 60Hz
 - Bronze
 - Mounted
 - Loose
 - Front
 - Rear
- S-2 High gas pressure switch, manual-reset
 - Factory-mounted
 - Shipped loose
- X-1 SureRack® kit
- X-2 SureRack® above-ground reinforcing
- X-3 SureRack® restraint brackets
- Z-9 Thermometer

Additional Options or Accessories

Multi-Boiler Temperature Controllers

- TempTracker Mod+ Hybrid
- B-36 2-4 Heaters
- B-37 5-10 Heaters
- B-38 11-16 Heaters
- B-39* EMS 4-20mA remote setpoint interface module
- B-62* BACnet MS/TP Interface module (*requires B-36 to B-38)

Job: _____



NOTE:
Pump location varies based on model and application.

SPECIFICATIONS										Approx. Shipping Wt. Lbs. (Kg)
Model	MBTUH (kWh)			Firing Stages	Dimensions - Inches (mm)					
	Input	Output 85%	Output 83.1%		A Width	K	T	W	Amp Draw*	
<input type="checkbox"/> 992CD	990 (290)	842 (247)	823 (241)	3	57-1/8 (1451)	10 (254)	10 (254)	16-13/16 (427)	<12	900 (408)
<input type="checkbox"/> 1262CD	1260 (369)	1071 (314)	1047 (307)	4	68-1/2 (1740)	12 (305)		20-9/16 (522)		1010 (458)
<input type="checkbox"/> 1532CD	1530 (448)	1301 (381)	1271 (372)	4	79-7/8 (2029)	12 (305)		24-3/8 (619)		1225 (556)
<input type="checkbox"/> 1802CD	1800 (527)	1530 (448)	1496 (438)	4	91-1/8 (2315)	14 (356)		28-1/8 (714)		1350 (612)
<input type="checkbox"/> 2072CD	2070 (607)	1760 (516)	1720 (504)	4	102-1/2 (2604)	14 (356)		31-15/16 (811)		1450 (658)
<input type="checkbox"/> 2342CD	2340 (686)	1989 (582)	1945 (570)	4	113-7/8 (2892)	16 (406)		35-11/16 (906)		1520 (689)

NOTES:
1. Rates shown are for natural or propane gas, and elevations up to 4,500 ft. De-rate above 4,500 ft.
2. Required natural gas pressure is 5.6 - 10.5" WC. Required propane gas pressure is 10.5 - 13" WC.

*Without pump



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Clearances - Inches (mm)										
	Floor	Rear (Indoors)	Rear (Outdoors)	Water Side (Indoors)	Water Side (Outdoors)	Other Side (indoors)	Other Side (outdoors)	Top	Front	Vent
Combustible Minimum	0	1 (25.4)	12 (304.8)	12 (304.8)	36 (914)	1 (25.4)	36 (914)	1 (25.4)	Open	2 (51)
Minimum Service	0	6 (152.4)	6 (152.4)	24 (610)	36 (914)	24 (610)	36 (914)	6 (152.4)	24 (610)	2 (51)

83.1% System Flow and Head Loss															
Model	3-4 Grains Per Gallon					5-15 Grains Per Gallon					16-25** Grains Per Gallon				
	ΔT °F (°C)	GPM (L/min)	ΔP (FT WC)	MTS in (mm)	SHL (FT WC)	ΔT °F (°C)	GPM (L/min)	ΔP (FT WC)	MTS in (mm)	SHL (FT WC)	ΔT °F (°C)	GPM (L/min)	ΔP (FT WC)	MTS in (mm)	SHL (FT WC)
<input type="checkbox"/> 992CD	29 (16.1)	60 (227)	2.7	2-1/2 (63.5)	5.2	17 (9.4)	98 (371)	7.3	2-1/2 (63.5)	13.3	13 (7.2)	132 (500)	13.1	2-1/2 (63.5)	23.6
<input type="checkbox"/> 1262CD	29 (16.1)	72 (272)	4.4	2-1/2 (63.5)	7.9	18 (9.9)	115 (435)	11.3	2-1/2 (63.5)	19.4	16 (8.8)	132 (500)	14.8	2-1/2 (63.5)	25.3
<input type="checkbox"/> 1532CD	29 (16.1)	86 (325)	7.1	2-1/2 (63.5)	11.9	21 (11.6)	120 (454)	13.7	2-1/2 (63.5)	22.5	19 (10.5)	132 (500)	16.5	2-1/2 (63.5)	27.0
<input type="checkbox"/> 1802CD	29 (16.1)	102 (386)	10.9	2-1/2 (63.5)	17.4	25 (13.8)	120 (454)	15.1	2-1/2 (63.5)	23.9	23 (12.7)	132 (500)	18.3	2-1/2 (63.5)	28.7
<input type="checkbox"/> 2072CD	31 (17.2)	117 (443)	15.1	2-1/2 (63.5)	23.4	26 (14.4)	132 (500)	19.0	2-1/2 (63.5)	29.5	26 (14.4)	132 (500)	19.0	2-1/2 (63.5)	29.5
<input type="checkbox"/> 2342CD	33 (18.3)	120 (454)	17.8	2-1/2 (63.5)	26.5	30 (16.6)	132 (500)	21.4	2-1/2 (63.5)	31.8	30 (16.6)	132 (500)	21.4	2-1/2 (63.5)	31.8

85% System Flow and Head Loss															
Model	3-4 Grains Per Gallon					5-15 Grains Per Gallon					16-25** Grains Per Gallon				
	ΔT °F (°C)	GPM (L/min)	ΔP (FT WC)	MTS in (mm)	SHL (FT WC)	ΔT °F (°C)	GPM (L/min)	ΔP (FT WC)	MTS in (mm)	SHL (FT WC)	ΔT °F (°C)	GPM (L/min)	ΔP (FT WC)	MTS in (mm)	SHL (FT WC)
<input type="checkbox"/> 992CD	28 (15.5)	60 (227)	2.7	2-1/2 (63.5)	5.2	17 (9.4)	98 (371)	7.3	2-1/2 (63.5)	13.3	13 (7.2)	132 (500)	13.1	2-1/2 (63.5)	23.6
<input type="checkbox"/> 1262CD	28 (15.5)	76 (288)	4.8	2-1/2 (63.5)	8.5	19 (10.5)	115 (435)	11.3	2-1/2 (63.5)	19.4	16 (8.8)	132 (500)	14.8	2-1/2 (63.5)	25.3
<input type="checkbox"/> 1532CD	32 (17.7)	83 (314)	7.1	2-1/2 (63.5)	11.9	22 (12.2)	120 (454)	13.7	2-1/2 (63.5)	22.5	20 (11.1)	132 (500)	16.5	2-1/2 (63.5)	27.0
<input type="checkbox"/> 1802CD	32 (17.7)	98 (371)	10.9	2-1/2 (63.5)	17.4	26 (14.4)	120 (454)	15.1	2-1/2 (63.5)	23.9	23 (12.7)	132 (500)	18.3	2-1/2 (63.5)	28.7
<input type="checkbox"/> 2072CD	32 (17.7)	112 (424)	15.1	2-1/2 (63.5)	23.4	27 (15.0)	132 (500)	19.0	2-1/2 (63.5)	29.5	27 (15.0)	132 (500)	19.0	2-1/2 (63.5)	29.5
<input type="checkbox"/> 2342CD	32 (17.7)	126 (477)	21.4	2-1/2 (63.5)	31.8	30 (16.6)	132 (500)	21.4	2-1/2 (63.5)	31.8	30 (16.6)	132 (500)	21.4	2-1/2 (63.5)	31.8

*Must utilize cupronickel tubes

**If over 25 grains per gallon, a water softener/treatment system must be utilized.

Caution: For scale free operation with "Hard Water" (16-25 grains per gallon of total hardness), the operating control must NOT be set higher than 130°F. For higher than 130°F operation, a water softener/treatment system must be utilized.

Caution: Water softened below 3 grains per gallon is known to be aggressive and corrosive.

85% Recovery Rates (GPH)									
Model	Temperature Rise (°F)								
	20°	30°	40°	50°	60°	70°	80°	90°	100°
<input type="checkbox"/> 992CD	5100	3400	2550	2040	1700	1457	1275	1133	1020
<input type="checkbox"/> 1262CD	6491	4327	3245	2596	2164	1855	1623	1442	1298
<input type="checkbox"/> 1532CD	7882	5255	3941	3153	2627	2252	1970	1752	1576
<input type="checkbox"/> 1802CD	9273	6182	4636	3709	3091	2649	2318	2061	1855
<input type="checkbox"/> 2072CD	10664	7109	5332	4265	3555	3047	2666	2370	2133
<input type="checkbox"/> 2342CD	12055	8036	6027	4822	4018	3444	3014	2679	2411



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83.1% Recovery Rates (GPH)									
Temperature Rise (°F)									
Model	20°	30°	40°	50°	60°	70°	80°	90°	100°
<input type="checkbox"/> 992CD	4986	3324	2493	1994	1662	1425	1247	1108	997
<input type="checkbox"/> 1262CD	6346	4231	3173	2538	2115	1813	1586	1410	1269
<input type="checkbox"/> 1532CD	7706	5137	3853	3082	2569	2202	1926	1712	1541
<input type="checkbox"/> 1802CD	9065	6044	4533	3626	3022	2590	2266	2015	1813
<input type="checkbox"/> 2072CD	10425	6950	5213	4170	3475	2979	2606	2317	2085
<input type="checkbox"/> 2342CD	11785	7857	5893	4714	3928	3367	2946	2619	2357